



SONICSMITH

# ***Moduio A1***

*Analog Modulation synth*

Owner's Manual

Voltage-Controlled  
Analog synthesizer.

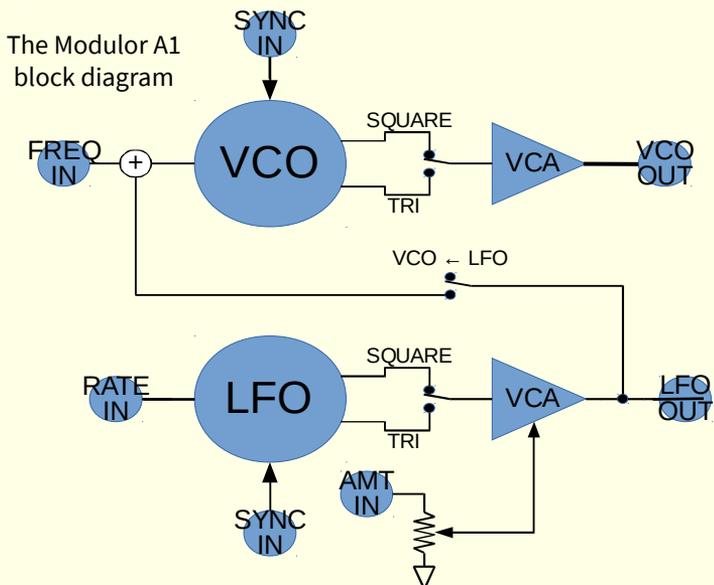
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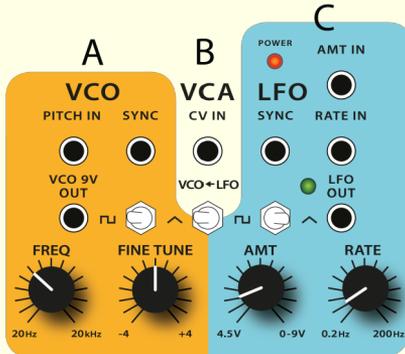
Hello, and thank you for purchasing the Modulator A1 synthesizer! The Modulator A1 is a simple analog synthesizer. It has two voltage controlled oscillators, one VCO at audio range (20Hz-20kHz) and the second for lower frequencies of audio and modulation (LFO) from 0.2Hz to 200Hz. You can play the Modulator A1 by itself to create some basic melodies or effects or you can control it from any CV source which is 1V/octave like CV keyboards, sequencers, and of course our own Audio Controlled Synthesizers (ACS). The following manual will explain this synthesizer in depth and walk you through your first sounds.

## WARNING! Risk of permanent hearing loss!

Do not connect the Modulator A1 output directly into guitar amps. Its output is at line level +4dBu.

Never have your head near any speaker while you or especially other people are tweaking the synth.





**A**

## VCO (Voltage Controlled Oscillator)

PITCH IN

1V/oct CV input to control the oscillator's frequency

SYNC IN

This audio input will reset the VCO phase every time it crosses a threshold of 0V.

VCO 9V out

Pure VCO output at 9V level (around +13dBu)

Wave sw.

Selects between triangle and square wave

FREQ

Controls the frequency played by the VCO

FINE TUNE

VCO frequency fine tune (+/-4 semitone range)

**B**

## VCA (Voltage Controlled Amplifier)

VCA CV IN

CV input to control the loudness of the line output

LFO to VCO

Left position will add the LFO to the VCO pitch CV for automatic frequency modulation

**C**

## LFO (Low Frequency Oscillator)

AMT IN

CV input which controls the amplitude of the LFO

SYNC

Resets the LFO wave whenever the CV crosses 3.5V

RATE IN

Controls the frequency of the LFO (approximately 1v/oct)

LFO OUT

The LFO output

AMT

Controls the LFO amplitude (mixed with CV in)

RATE

Controls the frequency of the LFO (mixed with CV in)

## Before you connect the line out

The only way to control the Modulor A1 loudness is via VCA CV input. There is no manual volume control on the synth itself. In any case you want to play the Modulor A1 without a VCA input, make sure to either have some ENV control or volume control at the destination handy.

### Quick start guide:

- 1) Connect 9V PSU (plus outside) to the 9V jack
- 2) Patch a TS jack from the VCO OUT to a mixer channel to listen to it. Make sure you have an external volume fader handy. Preferably gear which accepts studio line level of +4dBu. The output is unbalanced but the level is still high to satisfy direct recording to pro-gear.
- 3) You will notice the level is constant (default 4.5V) Tweak the VCO FREQ knob (the knob most left) to hear the range of frequencies it can produce. Switch between the waves using the WAVE select switch. Notice the square wave is louder than the triangle. It is about 4dBu louder naturally because of its shape.
- 4) Move the LFO > VCO (the middle switch) to the left and crank up the LFO AMT knob to hear the automatic sweeps created by both the triangle wave and the square wave shapes.
- 5) Tweak the LFO RATE knob to hear the range of speeds it can produce. For classic detune effect you can set a very low AMT and low rates. Then try fast RATE for extreme modulation up to completely scrambling the pitch and other FM effects.
- 6) Patch a mono minijack (ie. "CV cable") from the LFO OUT into the VCA IN and hear the amplitude changing.

- 7) Use a CV keyboard's pitch CV out into the PITCH IN and gate out into the VCA IN. Play the keyboard for its raw sound.
- 8) Try patching the Modulator to a multi-effects box. Preferably gear which accepts studio line level of +4dBu. The output of the modulator is unbalanced but the level is still high to satisfy direct recording to pro-gear. If you connect this to a mixer and the input distorts try pressing on the "pad" switch or the "-20" button on the channel strip if you have it. This will knock down the level of the Modulator A1 going into the mixer.
- 9) Try patching any gate out such as from the CV keyboard or a sequencer into the LFO SYNC IN with triangle wave shape for ENV-like synced LFO. You can use the same gate CV out into the VCA (to control note lengths) and / or to the VCO sync input as well (to start each note at the same wave phase for consistent level).
- 10) Try combining external ENV generators if you have them. Try patching one also to the LFO AMT CV in to possibly create a transient before the pitched tone.

## Troubleshooting

### **No Sound**

- Make sure the Modulator A1 is powered on and the power LED is lit.
- Make sure a functioning TS instrument cable is plugged into the VCO output on the back wall and to a line input which you are able to hear.
- Try plugging another line source there to see if you can hear the other source.
- Try taking out CV cables one at a time to see if any of them is turning off the output.

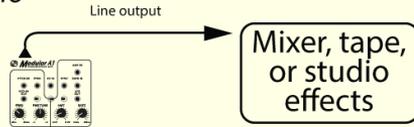
**Noisy output** – Try pointing the center sw. to the right.

# Example uses of the Modulator A1

## Example #1: *Playing solo*

Tones, effects  
& drones

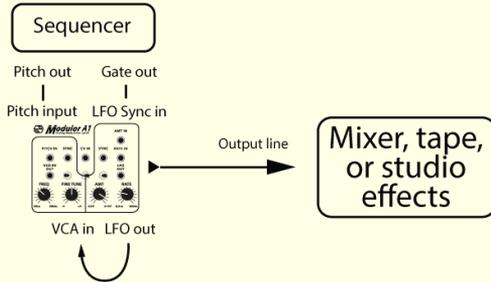
(for manual tweakage)



## Example #2: *Basic sequence*

Basic Sequence  
with "ENV"

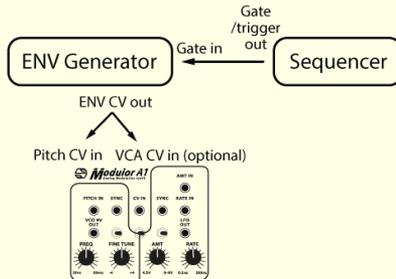
- LFO wave: Triangle
- LFO rate: Low
- ENV AMT: High
- Tweak: LFO RATE



## Example #3: *Kick drum*

Analog kick  
drum

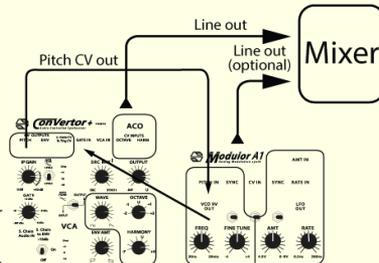
- VCO WAVE: Triangle / harder techno square
- Set the external ENV generator to quick decay / release times.
- Alternatively you can use an ACS's ENV out to pitch CV in while simply tap on your instrument or microphone.



## Example #4: *Pitch to Ring*

Ring mod / Harmonizing  
an ACS\*

- External ACS pitch CV out into pitch CV in
- VCO 9V out into GATE CV in of the ConVerter or the ring-mod input of a Squaver P1
- Tune the VCO to a harmony of the ACS pitch for endless varieties.
- Alternatively try patching the thru out of the ACS into the Modulator's VCO SYNC in for that "sync" sound.



\* = Audio controlled synths like our ConVerter and Squaver P1 synths

# Other Sonicsmith products

as updated on our website [sonicsmith.com/products](http://sonicsmith.com/products)



- Semi-modular, analog audio controlled synthesizer
- 1V/oct pitch, ENV, gate & trig CV outs.
- -2 - +2 octave range -7 - +5 semi-tones shift
- 2 ENV followers, one at main input and the second at side-chain input



- Audio Controlled Synthesizer
- Analog, semi-modular design
- 1V/oct pitch, ENV, gate, trig & expression pedal CV outs.
- 3 voice monophonic synth with PWM, -1 & -2 sub voices, ring-mod, VCA and VCF
- Many “performance enhancing features”
- LP, HP, BP, 2 / 4 pole VCF section



## Experiment hard experiment often

Our products are meant to be experimented with, to find their real potential. Please don't hesitate to send us videos of your experiment / performance so we can share them on our social media.

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# ***Moduor A1*** *Analog Modulation synth*

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